CLAIMS

1, 5-7, 11-13 and 15-15

1. A method of detecting rotational speed and angular position of a rotating wheel with a non-contact sensor that provides a pulse train output signal, said method comprising:

comparing the amplitude of the pulses of the pulse train output signal with a first variable switching threshold value; and

adjusting said switching threshold value when the difference between the amplitudes of the pulses and said switching threshold value exceeds a fixable first maximum value.

2. A method of processing a pulse train output signal provided by a non-contact sensor that senses the rotational speed and angular position of a rotating wheel, said method comprising:

comparing the positive and negative amplitude of pulses of the pulse train output signal or their maxima and minima with a second variable switching threshold value, which is adjusted so the difference between the extremes or the amplitudes of the pulses and said second variable switching threshold does not exceed a fixable second maximum value.

3. A method of processing a pulse train output signal provided by a non-contact sensor that senses the rotational speed and angular position of a rotating wheel, said method comprising:

comparing the amplitudes of the pulses with a third variable switching threshold, adjusting the value of said third variable switching threshold value if the difference between the amplitudes of two

successive pulses exceeds a fixable third maximum value.

4. A method of processing a pulse train output signal provided by a non-contact sensor that senses the rotational speed and angular position of a rotating wheel, said method comprising:

comparing the pulses with a fourth variable switching threshold value that is adjusted if the difference of the frequencies of successive pulses trains exceeds a fixable fourth maximum value.

5. The method of claim 1, wherein said switching threshold is adjusted if the difference between the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at the same time the difference between the extremes or the amplitudes and said switching threshold exceeds a fixable second maximum.

6. The method of claim 1, wherein said switching threshold is adjusted if the difference between the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at the same time the difference of the amplitudes of two successive pulses exceeds a fixable third maximum.

7. The method of claim 1, wherein said switching threshold is adjusted if the difference between the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable fourth maximum.

8. The method of claim 2, wherein the switching threshold is adjusted if the difference between the extremes or the amplitudes of the pulses and the switching threshold exceeds said second fixable maximum, and at the same time the difference between the amplitudes of two successive pulses exceeds a fixable third maximum.

9. The method of claim 2, wherein said switching threshold is adjusted if the difference between the extremes or the amplitudes of the pulses and said switching threshold exceeds said fixable second maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable fourth maximum.

10. The method of claim 3, wherein said switching threshold is adjusted if the difference of the amplitudes of two successive pulses exceeds said fixable third maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable third maximum.

11. The method of claim 1, wherein said switching threshold is adjusted if the difference between the amplitudes of the pulses and said switching threshold exceeds the fixable first maximum, and at the same time the difference between the extremes or the amplitudes of the pulses and the variable switching threshold exceeds a fixable second maximum, and at the same time the difference between the amplitudes of two successive pulses exceeds a fixable third maximum.

~~12.~~ The method of claim 1, wherein said switching threshold is adjusted if the difference between the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at the same time the difference between the extremes or the amplitudes and the variable switching

threshold exceeds a fixable second maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable fourth maximum.

13. The method of claim 1, wherein said switching threshold is adjusted if the difference between the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at the same time the difference of the amplitudes of two successive pulses exceeds a fixable second maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable third maximum.

14. The method of claim 2, wherein said switching threshold is adjusted if the difference between the extremes or the amplitudes of the pulses and said variable switching threshold exceeds said fixable second maximum, and at the same time the difference between the amplitudes of two successive pulses exceeds a third fixable maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable fourth maximum.

15. The method of claim 1, wherein said switching threshold is adjusted if the difference between the amplitudes and the pulses and said switching threshold exceeds said fixable first maximum, and at the same time the difference between the extremes or the amplitudes of the pulses and the variable switching threshold exceeds a fixable second maximum, and at the same time the difference between the amplitude of two successive pulses exceeds a fixable third maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable fourth maximum.

16. The method of claim 15, comprising an evaluation circuit receives said pulses and determines the relative angular position of the wheel and its instantaneous rotational velocity, and provides signals indicative thereof.

17. The method of claim 15, wherein the value of said switching threshold is increased if the difference of the amplitudes has a positive sign, and the value of said switching threshold is lowered if the difference signal has a negative sign.

18. The method of claim 15, wherein the value of said switching threshold is increased if the difference of the frequencies has a positive sign, and is lowered if the difference of the frequencies has a negative sign.

19. The method of claim 15, comprising the step of enabling the adjustment of said threshold signal if a received synchronization signal is valid.